

TECHNICAL REVIEW DOCUMENT
For
RENEWAL OF OPERATING PERMIT 02OPLR243

Larimer County Landfill
Larimer County
Source ID 0690381

Prepared by Bailey Smith
October 2011

I. Purpose

This document establishes the basis for decisions made regarding the applicable requirements, emission factors, monitoring plan and compliance status of emission units covered by the renewed Operating Permit for the Summit County Landfill. The previous Operating Permit for this facility was issued on September 1, 2002 and expired on September 1, 2007. However, since a timely and complete renewal application was submitted, under Colorado Regulation No. 3, Part C, Section IV.C all of the terms and conditions of the existing permit shall not expire until the renewal operating permit is issued and any previously extended permit shield continues in full force and operation.

This document is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties. The conclusions made in this report are based on information provided in the renewal application submitted on August 25, 2006, previous inspection reports and various email correspondence with the applicant. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at <http://www.cdphe.state.co.us/ap/Titlev.html>. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

II. Description of Source

The Larimer County Landfill is a municipal solid waste landfill and falls under the Standard Industrial Classification 4953. Landfill gas is generated from the decomposition of organic materials found in landfills. Landfill gas is primarily composed of methane and carbon dioxide. Volatile organic compounds (VOC) and hazardous air pollutants (HAP) are present in landfill gas in trace amounts. These landfill gases escape from the landfill and are emitted into the air. Fugitive particulate emissions are

generated from various activities at the landfill, including, excavation activities, soil cover handling and storage, and truck traffic on haul roads. A gasoline storage tank is also present at the facility.

This facility is located at 5887 South Taft Hill Road in Larimer County. This area is classified as attainment/maintenance for carbon monoxide (CO). Under that classification, all SIP-approved requirements will continue to apply in order to prevent backsliding under the provisions of Section 110(l) of the Federal Clean Air Act. This Area is classified as non-attainment for ozone and is part of the 8-hr Ozone Control Area as defined in Regulation No. 7, Section II.A.1.

Wyoming is an affected state within 50 miles of the plant. The following Federal Class I designated area is within 100 kilometers of the plant: Rocky Mountain National Park and Rawah Wilderness Area.

Based on the information provided by the applicant, this source is categorized as a minor stationary source for both NANSR and PSD as of the issue date of this permit. For NANSR, any future modification at this facility which is major by itself (i.e. a Potential to Emit of ≥ 100 TPY of either VOC or NO_x) may result in the application of the NANSR review requirements. For PSD, any future modification at this facility for which is major by itself (Potential to Emit of ≥ 250 TPY) for any pollutant listed in Regulation No. 3, Part D, Section II.A.42 for which the area is in attainment or attainment/maintenance may result in the application of the PSD review requirements.

Gas emissions are calculated using EPA's LandGEM. Emissions are calculated using site-specific NMOC concentration as determined by the most recent Tier 2 testing, methane generation capacity of $100 \text{ m}^3/\text{Mg}$, and methane generation rate of $0.02/\text{yr}$ for arid areas. The particulate matter potential emissions were calculated using equations and methodology from AP-42. Emissions (in tons/yr) at the landfill and associated flare (10OPLR356) are as follows:

	Potential to Emit	Actual (2010)
Landfill		
PM	226.2	161.7
PM_{10}	72.9	63.0
VOC	18.21	2.39
Flare		
NO_x	9.83	
CO	53.48	
SO_x	2.22	
PM_{10}	2.41	

Note that this landfill has installed a voluntary gas collection and control system and sends collected landfill gas to a flare owned and operated by Larimer Energy, LLC. The Larimer County Landfill and Larimer Energy, LLC, permitted under operating permit number 10OPLR356, are considered to be a single source for PSD purposes.

The facility is not major for Title V purposes based on emission levels. The facility is subject to NSPS Subpart WWW which requires all municipal solid waste landfills with a design capacity greater than 2.5 million megagrams or 2.5 million cubic meters to obtain an operating permit.

Applicable Requirements

Greenhouse Gases

The potential to emit greenhouse gases at this facility is less than 100,000 TPY CO₂e. Future modifications at this facility that exceed 100,000 TPY CO₂e may be subject to regulation. On July 20, 2011, a final rule regarding biogenic CO₂ emission was published in the Federal Register. This final action defers, for a period of three years, the application of the Prevention of Significant Deterioration (PSD) and Title V permitting requirements to carbon dioxide (CO₂) emissions from bioenergy and other biogenic stationary sources (biogenic CO₂). As it relates to this facility, biogenic CO₂ includes all CO₂ generated from the biological decomposition of waste in landfills and CO₂ emissions from the combustion of biogas collected from the biological decomposition of waste in landfills. Note that the emission of biogenic methane is still a contributing factor in calculating greenhouse gas emissions from the facility.

NSPS Subpart WWW

This facility is subject to the provisions of 40 CFR Part 60 Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills. The design capacity of the landfill is 11,190,000 cubic meters. Based on the site-specific NMOC concentration from the Tier 2 testing, the NMOC emissions from this facility do not trigger the requirements to install a gas collection and control system (GCCS). The GCCS in place at the facility is operating voluntarily and is not subject to the operating and monitoring requirements in NSPS Subpart WWW. The facility is therefore treated as if a GCCS was not installed and must perform Tier 2 testing every 5 years to determine site-specific NMOC concentrations to be used in NMOC emissions reports.

NESHAP Subpart CCCCCC

There is one gasoline storage tank identified as insignificant activity in the renewal application under the provisions in Colorado Regulation No. 3, Part C, Sections II.E.3.fff. However, under the “catch-all” provisions in Regulation No. 3, Part C, Section II.E, sources that are subject to any federal or state applicable requirement, such as National Emission Standards for Hazardous Air Pollutants (NESHAPs), may not be considered insignificant activities for operating permit purposes. EPA promulgated National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities which apply to this tank; therefore, it can no longer be considered insignificant activity in the operating permit. Although the unit cannot be considered insignificant activity, since the Division has not yet adopted the rule, the tank is still

exempt from APEN reporting and minor source construction permit requirements. The applicable requirements were included in the permit.

Compliance Assurance Monitoring

There are no emission points at this facility that use a control device to achieve compliance with an emission limitation or standard to which they are subject and have pre-control emissions that exceed or are equivalent to the major source threshold. Therefore no emissions units at this facility are subject to the provisions of the CAM program as set forth in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV.

III. Discussion of Modifications Made

Source Requested Modifications

The renewal application received on August 25, 2006 requested the following modifications:

- Modify the permit in accordance with emission limits and design capacity as reported on APENs submitted with the renewal application.
- Update the list of insignificant activities.

The source's requested modifications were addressed as follows:

Section II – Specific Permit Terms

- Added the applicable requirements for the gasoline tank as discussed above. The tank is also subject to statewide Reg. 7 rules related to the handling of VOCs. These requirements are included in the in the general permit conditions in Section IV.29 of the permit.
- Design capacity has been added as a permit condition. The facility must submit amended design capacity report if the facility expands.
- The VOC emission limitation was lowered as request in the APENs submitted with the renewal application.

Appendices

- The updated list of insignificant activities was included in Appendix A, with the exception of the gasoline tank, which was included in the specific permit terms as mentioned above.
- An updated facility plot plan, as submitted on June 19, 2006, was added to Appendix A.

Other Modifications

In addition to the source requested modifications, the Division has included changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified

during inspections and/or discrepancies identified during review of this renewal. These changes are as follows:

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- It should be noted that the monitoring and compliance periods and report and certification due dates are shown as examples. The appropriate monitoring and compliance periods and report and certification due dates will be filled in after permit issuance and will be based on permit issuance date. Note that the source may request to keep the same monitoring and compliance periods and report and certification due dates as were provided in the original permit. However, it should be noted that with this option, depending on the permit issuance date, the first monitoring period and compliance period may be short (i.e. less than 6 months and less than 1 year).
- Modified the language concerning postmarked dates for report submittals to reflect the Division's current standard language.

Section I – General Activities and Summary

- Modified the permitted activities description to account for change in attainment status of the area and provide more detail about operations at the facility.
- Updated Condition 3 to include discussion of non-attainment new source review status as well as Larimer Energy's Title V permit that is part of this source for purposes of determining the applicability of PSD requirements.

Section II – Specific Permit Terms

- Provided a more detailed explanation of the NSPS Subpart WWW requirements applicable to the facility.

Section III – Permit Shield

- Updated the Reg 3 Citation for the permit shield.

Section IV – General Permit Conditions

- Updated the general permit conditions to the current version (11/16/2010).

Appendices

- Updated Appendices B and C (Monitoring and Permit Deviation Reports and Compliance Certification Reports) to the newest versions (2/20/2007).
- EPA's mailing address was revised (Appendix D). Revised CDPHE contact to Matt Burgett.